

Final

**FOCUS REPORT**  
**New Chemicals Program**

**PART I: BACKGROUND**

Written By: DHN

FOCUS DATE: 4/17/2008

FOCUS CHAIR: A. Binder

COMPANY: Ciba Corporation

CASE NUMBER(S): P08-0339 through and

**PART II: SAT RESULTS**

HEALTH: 1-2

ECOTOX: 3

OCCUPATIONAL  
EXPOSURE: 0-1

CONSUMER  
EXPOSURE:

ENVIRONMENTAL  
RELEASES:

Additional SAT  
Information:

**PART III: OTHER FACTORS**

a. PRODUCTION VOLUME: [REDACTED] kg/yr

b. PROD VOL OTHER:

c. USE: [REDACTED]

d. REGULATORY HISTORY: NRC

e. TEST DATA:

f. IMPORTED ☐ MANUFACTURED ☒ BOTH ☐

g. MSDS: ☒

h. CATEGORY: Polycationic Polymers CATEGORY 2:

**PART IV: SUMMARY OF SAT ASSESSMENT**

CASE NUMBER: P08-0339

FATE: [REDACTED]

Solid

S > 10 g/L at 25 °C (Analog)

VP < 1.0E-6 torr at 25 °C (E)

BP > 400 °C (E)

H < 1.00E-8 (E)

POTW removal (%) = 90-99 via sorption

Time for complete ultimate aerobic biodeg > mo

Sorption to soils/sediments = v.strong

PBT Potential: P3B1T1



HEALTH: Absorption is nil all routes based on physical/chemical properties. There is concern for lung effects if respirable particles are inhaled based on lung overload for high molecular weight polymers (MW = [REDACTED]) and potential for cationic binding to lung tissues.

ECOTOX: Predicted (P) and measured (M) toxicity values in mg/L (ppm) are:

fish 96-h LC50 = 0.28 P TOC 2

daphnid 48-h LC50 = 0.10 P TOC 2

green algal 96-h EC50 = 0.040 P TOC 2

fish chronic value = 0.016 P TOC 2

daphnid ChV = 0.007 P TOC 2

algal ChV = 0.020 P TOC 2

Predictions are based on SARs for polycationic polymers with [REDACTED] amine-N; SAR chemical class = polymer [REDACTED]

[REDACTED] S > 400 g/L at 20 °C, pH 7 (P); pH7; effective concentrations based on 100% active

ingredients and nominal concentrations; hardness <150.0 mg/L as CaCO<sub>3</sub>; and TOC <2.0 mg/L;  
high concern for acute toxicity in water with TOC <2.0 mg/L;  
mitigation of toxicity expected in the presence of 10 mg TOC/L, i.e., about 110 times;  
low concern for environmental risk at TOC = 10 mg/L;  
assessment factor = 10.0  
concern concentration . 1.0 mg/L (ppm) with mitigation due to 10 mg TOC/L;

#### **PART V: RAD RISK RATIONALE: HUMAN HEALTH**

#### **PART VI: SUMMARY OF EXPOSURE/RELEASE**

Manu:

[REDACTED]

Releases to Water:

[REDACTED]

Use:

[REDACTED]

[REDACTED]

#### **PART VII: FOCUS DECISION AND RATIONALE**

**DISPOSITION:** Drop

**RATIONALE:** P08-0339 was dropped from further review. Potential risks to human health were addressed by negligible inhalation exposures. Although concerns were high, potential risks to the environment were low based on 110 times mitigation of toxicity expected in the presence of 10 mg TOC/L. This was an EAB Drop.

#### **PART VIII: CCD DISPOSITION / DD**

CCD:

## STRUCTURE ACTIVITY TEAM REPORT ver. 04/98

Case #: P-08-0339

DCN:

SAT Date: 4/8/2008

SAT Chair: R. Jones

Submitter: Ciba Corporation

Chemical Name:

Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]-, chloride (1:1), polymer with N,N,N-trimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethanaminium chloride (1:1)

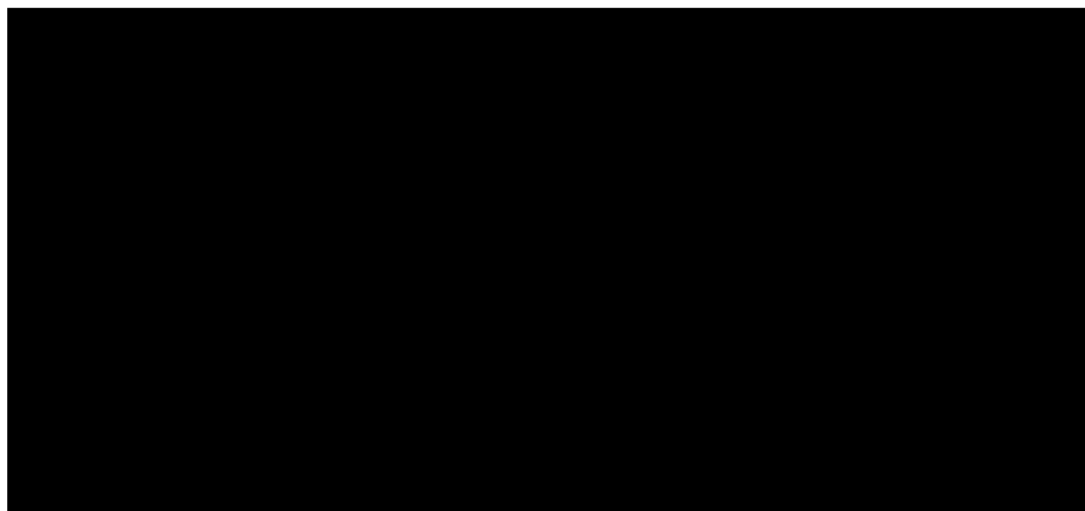
CAS RN:

220557-81-3

Trade Name:

DP2-4-9094, DP204-9095, SGA IV

## Structure



Molecular Formula:

Molecular Wt.

WT%&lt;500:

WT%&lt;1000:

MP:

BP:

Eq. Wt:

H2O Sol (g/L):

&gt; 400

V.P.

&lt; 0.000001

Max. Prod. Volume (kg/yr):

Physical State:

Solid

USE:

Combined cationic amine FGEW

Related Case Numbers	Case Role	Related Case Numbers	Case Role

Focus

Date:

4/17/08

Results:

Focus Drop  
Page 1 of 5

5 0 0 8 0 0 0 2 8 3 2

STRUCTURE ACTIVITY TEAM REPORT

CASE NUMBER: P08-0339

RELATED CASES:

CONCLUSIONS/DISCUSSIONS

TYPE OF CONCERN:	HEALTH	ECOTOX
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LEVEL OF CONCERN:	1-2	3
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KEYWORDS:

LUNG  
AQUATOX-A,C

SUMMARY OF ASSESSMENT

FATE: [REDACTED]

Solid

S > 10 g/L at 25 °C (Analog)

VP < 1.0E-6 torr at 25 °C (E)

BP > 400 °C (E)

H < 1.00E-8 (E)

POTW removal (%) = 90-99 via sorption

Time for complete ultimate aerobic biodeg > mo

Sorption to soils/sediments = v.strong

PBT Potential: P3B1T1

\*CEB FATE: Migration to ground water = negl

HEALTH: Absorption is nil all routes based on physical/chemical properties. There is concern for lung effects if respirable particles are inhaled based on lung overload for high molecular weight polymers (MW = [REDACTED]) and potential for cationic binding to lung tissues.

\*CEB HEALTH: Low moderate concern (Inhalation only for respirable particles). XB: Testing desired (Inhalation only).

ECOTOX: Predicted (P) and measured (M) toxicity values in mg/L (ppm) are:

fish 96-h LC50	=	0.28	P TOC 2
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daphnid 48-h LC50	=	0.10	P TOC 2
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green algal 96-h EC50	=	0.040	P TOC 2
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fish chronic value	=	0.016	P TOC 2
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daphnid ChV	=	0.007	P TOC 2
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algal ChV	=	0.020	P TOC 2
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Predictions are based on SARs for polycationic polymers with [REDACTED] % amine-N; SAR chemical class = polymer-[REDACTED]; amine-N; MW [REDACTED] with [REDACTED] <1000 and [REDACTED] % <500 and [REDACTED] amine-N; S > 400 g/L at 20 C, pH 7 (P); pH7; effective concentrations based on 100% active ingredients and nominal

concentrations; hardness <150.0 mg/L as CaCO<sub>3</sub>; and TOC <2.0 mg/L;  
high concern for acute toxicity in water with TOC <2.0 mg/L;  
mitigation of toxicity expected in the presence of 10 mg TOC/L,  
i.e., about  $\geq 110$  times;  
low concern for environmental risk at TOC = 10 mg/L;  
assessment factor = 10.0  
concern concentration  $\geq 1.0$  mg/L (ppm) with mitigation due to  
10 mg TOC/L;  
\*CEB ECOTOX: No releases to water. XB: No testing desired.

Becky Jones      564-8919

## NCSAB SAT REPORT

PMN: P-08-0339

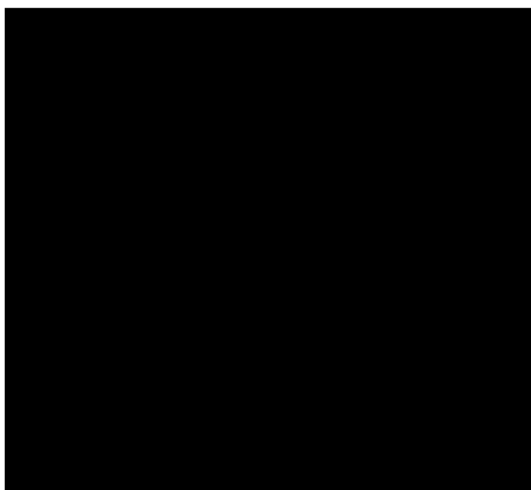
CAS RN: 220557-81-3

Chemical Name:  
Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]-, chloride  
(1:1), polymer with N,N,N-trimethyl-2-[(1-oxo-2-propen-1-yl)oxy]ethanaminium  
chloride (1:1)

Analog:

Production Volume:

Structure:



Use:

Combined cationic amine FGEW =

Formula:

MP: BP: VP: &lt; 0.000001

H2O Sol (g/L): &gt; 400 Physical State: Solid Log P:

Endpoint (mg/L)	Est. Value	Meas. Value	Comments
Fish 96-h	0.28		
Daphnid 48-h	0.10		
Algal 96-h	0.040		
Fish ChV	0.016		MF ≈ 110
Daphnid ChV	0.007		
Algal ChV	0.020		
BCF			

CHEMICAL CLASS:

SAR: polymer-cat-

ECOTOX CONCERN

H

M

L

CONCERN CONCENTRATION ≥ 1.0

DATE

4/8/08

ASSESSOR: